

REMARKS

In the foregoing amendments, claims 1-8 were canceled and replace new claims 9-24. Accordingly, claims 1-24 are in the application for consideration by the examiner. The new claims define, among other things, that the gas for the excimer laser contains an effective amount of xenon gas for reducing burst and spiking phenomena caused in an excimer laser output in the burst operation or other similar language. The use of such an "effective amount" expression or other similar language has long been recognized as acceptable in U.S. patent practice. *In re Halleck*, 164 USPQ 647, 57 CCPA 954 (CCPA 1970).

Applicants desire to express their thanks to Examiners Cornelius Jackson and Raul Ip for the courtesies extended to the undersigned in a personal interview on February 26, 2002, and a telephone interview with Examiner Raul Ip on April 1, 2002. During the first interview, it was indicated that including more structure, such as a narrow-band making unit, into the claims had a better chance for patentability. In the telephone interview, it was indicated that the limitations in original claim 2 also have a good chance of patentability. The limitations were directed to a xenon gas cylinder, sensing means for detecting a concentration of the xenon gas added to the gas for excimer laser in the chamber, and control means for controlling an amount of the xenon gas applied from the xenon gas cylinder to the chamber based on the concentration of the xenon gas detected by the sensing means.

In light of these remarks, applicant respectfully submits that new claims 10, 11, and 16 should be allowed for these reasons. It is respectfully noted that new claims 18-24 are method claims directed to, among other things, separately supplying xenon gas into the mixed gas chamber in an amount effective for reducing first and spiking phenomena caused in the excimer laser during burst operation, which step is not remotely contemplated or suggested by any teachings cited during the prosecution of the parent application.

The claims in the parent application were rejected under 35 U.S.C. § 102(b) and/or 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,642,374 of Wakabayashi *et al.* (Wakabayashi) or U.S. Patent No. 3,829,551 of Stein (Stein). Applicant respectfully submits that the teachings of Wakabayashi and/or Stein do not disclose or suggest the invention as set forth in the present claims within the meaning of 35 U.S.C. § 102(b) or 35 U.S.C. § 103(a).

Neither Wakabayashi nor Stein recognize the importance and significance of the use of the small amount of xenon gas as opposed to other gases, namely, argon, krypton, or neon gas. For this reason, applicant respectfully submits that the teachings of Wakabayashi or Stein cannot motivate one of ordinary skill in the art to the presently claimed invention.

In fact, the teachings of Stein are directed to a technique of purifying Xe on gas, and have nothing to do with the technical field of lasers. Therefore,

applicant respectfully submits that such teachings are not pertinent to the presently claimed invention.


While Wakabayashi discusses Xe gas, the discussion in Wakabayashi about Xe gas is simply explaining an XeCl excimer laser. This Xe gas discussed in Wakabayashi is only the laser gas itself, but not an additive gas for a specific purpose as in the presently claimed invention. In other words, in the teachings of Wakabayashi Xe gas is only used as the gas that is essential for laser oscillation (i.e., main laser gas), which, for example, corresponds to Ar gas of ArF excimer laser. In contrast thereto, in the presently claimed invention a small amount of Xe gas is added to the gas that is essential or used for laser oscillation (main laser gas). The applicants have discovered that adding a small amount of Xe gas to the excimer laser gas mixture significantly improves the laser oscillation characteristics. Namely, by the use of a small amount of additive xenon gas in accordance with the present claimed invention, the burst and spiking phenomena caused in an excimer laser output in the burst operation can be reduced. This is shown in Figs. 2-5 and the accompanying discussion in applicant's specification disclosure. The teachings of Wakabayashi are completely silent with respect to these aspects of the presently claimed invention and, thus, cannot possibly motivate one of ordinary skill in the art to the same.

For the foregoing reasons, applicant respectfully submits that the teachings of Wakabayashi and/or Stein cannot contemplate or suggest the

invention as set forth in Claims 9-24 within the meaning of 35 U.S.C. § 102(b) or 35 U.S.C. § 103(a). Accordingly, favorable consideration and allowance of Claims 9-24 are respectfully requested. While it is believed that the present application is in condition for allowance, should the Examiner have any comments or questions, it is respectfully requested that the undersigned be telephoned at the below-listed number to resolve any outstanding issues.

In the event any additional fees are due, please charge our Deposit Account No. 22-0256.

Respectfully submitted,
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